UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202-2733

May 8, 2013

Mr. Matt Wickham
Pastor, Behling & Wheeler LLC
620 E. Airline
Victoria, TX 77901

Re: EPA's Comments on the Draft Preliminary Conceptual Site Model Dated April 2013 for the US Oil Recovery Superfund Site

Mr. Wickham

EPA received a Draft Preliminary Conceptual Site Model during the face-to-face meeting on May 1, 2013 with PBW, LLC, the EPA, and the TCEQ (via phone). Pursuant to the meeting on May 1, 2013 and site visit on May 3, 2013 by PBW, LLC, the EPA, and the TCEQ, EPA's comments to the draft Conceptual Site Model are attached. They include comments both from EPA's Ecological Risk Assessor and from EPA's Human Health Risk Assessor.

If you have questions or would like to discuss these comments please contact me at 214-665-8529 and I can set up a conference call with all the parties involved.

Sincerely,

Raji Josiam
Remedial Project Manager, Superfund Division

Attachments:
- Memorandum – EPA Ecological Risk Assessor's Comments
- Memorandum – EPA Human Health Risk Assessor Comments

Electronic Copy only:

Eric Pastor, PBW, LLC
Kirby Tyndall, PBW, LLC
Patrick Gobb, New Fields
Lam Tran, TCEQ

Adam Adams, EPA
Dipanjana Bhattacharya, EPA
Kenneth Shewmake, EPA
Carlos Sanchez, EPA

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MEMORANDIUM

SUBJECT: Comments on the Conceptual Site Model for US Oil Recovery OU1 and OU2

FROM: Kenneth Shewmake, USEPA Ecological Risk Assessor

TO: Raji Josiam, USEPA Remedial Project Manager

DATE: May 5, 2013

1. It is appropriate to have separate conceptual Site models (CSMs) for human health and ecological risk. It is also appropriate to have separate CSMs for the two OUs. This is an improvement over previous drafts of this document.

2. The format of the CSMs has been changed to show sources and release mechanisms, exposure mediums, and potential receptors. This is a big improvement over the previous draft of the ecological CSM. The depiction of the possible pathways from the primary source to exposure medium appears to show most of the relevant pathways that need to be investigated, but the following changes will need to be made to the draft CSMs.
   - Both ecological CSMs (fig 2 and 4) will need to be revised to show consumption of dietary items by higher trophic level receptors. The dietary items should be listed under exposure medium and the relevant pathways need to be shown.
   - This is a preliminary CSM and the potential receptors will need to be refined during the risk assessment process. In the early stages it is OK to use general categories like birds and mammals for receptors but this may need to be refined as more information is gathered at the site. When assessment and measurement receptors are selected this will need to be shown on the CSM. Categories may include piscivorous birds, shore birds, song birds, herbivorous mammals, omnivorous mammals, and other categories of receptors. It is possible that reptiles and amphibians will need to be evaluated. One category of receptor that needs to be added at this time is benthic invertebrates.
   - During the May 3, 2013 site visit we observed several areas on site at the USOR OU with shallow standing water. In most cases it appeared that the water was the short term result of recent rainfall, but in some cases we observed aquatic plants and animals in these areas. This indicates that some on-site surface water and sediment will need to be evaluated. The CSM needs to be changed to reflect this.
   - It appears that both fresh water and salt water are present at the site or in close proximity to the site. Future versions of the CSM will need to depict the presence of both freshwater and saltwater because the exposure for various receptors will be different for these exposure media.

3. **Figure two and Four, note number (1) in legend:** The site has standing water, shallow wetland areas, undeveloped fields, numerous trees, and is in close proximity to sensitive environmental

areas. It is likely that transport pathways exist from the site to sensitive habitat that is located adjacent to the site. The presence of threatened and endangered species on or in close proximity to the site has not been evaluated. Future land use has not been established and because of this it is not clear if the area could be returned to natural conditions. For these reasons it is inappropriate to limit the risk assessment to acute exposure at this time. All areas with a one should be shown as complete pathways.

4. **Figure two and Four, note (2) in the legend:** Based on observations made during the May 3, 2013 site visit, the on-site soil is suitable habitat for plants and invertebrates. In addition to this plants and invertebrates could be used as prey items by receptors . Exposure pathways listed with a two note need to be changed to show a complete pathway.

5. **Note (4) in the legend of figures 1-4:** The legend uses color coding to show that the media collection during the first round of sampling will be done iteratively in three phases. The HH CSM (fig 1, and fig 3) show 4 phases of sampling. The reason provided for doing sampling in phases is to avoid sampling for COPCs that did not originate at the site, and to refine sampling needs based on sample results. An iterative sampling plan is acceptable, but it should be assumed that sampling for off-site soil, off-site surface water, and off-site sediment will be required to complete the SLERA. A preliminary sampling plan for sampling off-site surface water, off-site sediment, and off site soil should be included in the work plan and in the SAP. This sampling plan can be modified when phase one sample results are obtained. The first phase of the first round of sampling should include on-site soil, on-site surface water, on-site sediment, and ground water. An evaluation of the possibility of groundwater to surface water transport of contaminants will be needed. The second phase and third phase depicted in the CSM should be combined as the results of the second phase (off-site soil) will not impact the decision to sample off-site sediment and off-site surface water. Additional on-site media samples can be collected in phase two if needed. On-site and off-site air samples can be collected in phase two as the results from phase one can be used to screen for the possibility of vapor intrusion. The third phase would include any fish and biota samples that are needed. A second round of sampling after the SLERA report may be needed for the BERA as toxicity and bioavailability studies may be needed.

6. A topographic map and a map depicting areas that are within the 100 year flood plane would be useful for determining the off-site areas that need to be sampled. A careful review of available information on site history will also be needed before ruling out COPCs based on on-site media sample results. Information on groundwater depth, flow, and classification will also be needed.

The receptor, exposure medium section of fig 2 needs to be changed to look like the following.

	Terrestrial invertebrates	Terrestrial Plants	Benthic Invertebrates	Fish	Mammals	Birds
On-Site soil	C	C	I	I	C	C
On-site sediment	I	I	C	I	C	C
On-site surface water	I	I	C	I*	C	C
off-Site soil	C	C	I	I	C	C
Off-site surface water	I	I	C	C	P	P
Off-site sediment	I	I	C	C	P	P
Aquatic and fish dietary items	I	I	I	C	C	C
Terrestrial plant and insect dietary items	I	I	I	I	C	C

Legend
Complete
Incomplete
(P) Potential exposures for COPECs will be evaluated in an iterative manor based on preliminary sample results.

* did not observe fish- will revise if needed.

Figure 4 will need to look the same without the on-site sediment and on-site surface water exposure medium.

MEMORANDIUM

SUBJECT: Comments on the Conceptual Site Model for US Oil Recovery OU1 and OU2

FROM: Dipanjana Bhattacharya, USEPA Human Health Risk Assessor

TO: Raji Josiam, USEPA Remedial Project Manager

DATE: May 8, 2013

1) The sampling phases should be limited to two. On-site groundwater and on-site soil should be in phase 1. The rest (off-site surface soil, on-site air, off-site air, surface water, sediment, and fish/shellfish) should be in the second phase. Background samples could also be collected in the second phase.

2) What is the final land use determination? The default is residential unless otherwise stated. Please find proof of land use.

3) The notes in the legend (specifically Note:1) needs to be proven

4) Trespasser receptor needs to be evaluated for on-site use given the fact that break-ins have occurred.

5) Upon evaluating the off-site residential neighborhood, I did notice a potential well. This needs to be further evaluated. If residents are drinking from that well then this opens a new pathway. Information on local wells and water quality need to be presented.

6) Also there were chickens on one visible yard. This potential food pathway needs to be evaluated.

7) Fruit trees were visible on one yard. This potential food pathway needs to be evaluated.

8) Groundwater to off-site air pathway needs to be evaluated.